

STEREO RECEIVER

# SX-434

OPERATING INSTRUCTIONS

FP  
FV  
GN



 PIONEER®

We are proud to welcome you to the world-wide family of SX-434 owners.

All the experience and knowledge gained by our aggressive engineers has been built in this feature-packed model SX-434 to make it the most reliable stereo receiver ever marketed.

To get the most from the quality stereo receiver, please read the operating instructions thoroughly and follow the directions indicated.

## INSTALLATION

For safety and reliability in addition to protection of the outward appearance of each component, please avoid installing them in any of the following places:

- In direct sunlight or near heating units.
- In a poorly ventilated, dusty, or damp place.
- In an unstable place where is significant vibration or inclination.

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## FEATURES

### Advanced Tuner Section

- FM tuner section using high stability circuitry.
- FM front end with FET and rectilinear frequency three stage variable capacitor.
- IF amplifier circuitry with high reliable integrated circuits developed by Pioneer.
- Incorporation of two twin-element phase-linear ceramic filters and high stability circuitry components makes for excellent image rejection, superior capture ratio, improved SN ratio plus selectivity — in short, tip-top performance all round.
- Phase Locked Loop circuitry is used in the multiplex circuit to prevent deterioration due to temperature changes and the passage of time.
- Pioneer's low distortion and excellent separation characteristics provide for stable operation which ensures enhanced FM stereo listening pleasure for you.

### Effective FM Muting

The SX-434 has a switchable FM muting circuit which makes FM tuning easier by eliminating annoying inter-station noise and weak broadcast signals from distant stations which you do not want to receive.

### AM Tuner Section With Ferrite Bar Antenna

To ensure high quality reception of AM broadcasts a sensitive ferrite bar antenna is provided. For optimum reception, its position can be changed with a single touch.

### Plays All Program Sources

Rear panel input terminals are provided for the connection of a turntable, tape deck—this can be a reel to reel deck, a cartridge tape player or a cassette deck—and another auxiliary source. On the front panel there is a jack for the connection of a microphone. This means you can play back from a full range of sources.

### Two Pairs Of Speaker Terminals

On the rear panel there are two pairs of speaker terminals; on the front panel there is a speaker select switch. Simply switch this selector and you can compare the same music played back through different speaker systems or hear the music in one, the other, or both, of two rooms. With the SX-434 you have two stereo systems.

### Functional, Coordinated Design

The SX-434's appearance matches that of other components from Pioneer. The elegant yet functional front panel combined with the handsome wood cabinet makes the SX-434 look like the high quality component it is.

## LINE VOLTAGE AND FUSE AND REAR PANEL

Each design of LINE VOLTAGE and FUSE of this model differs according to each destination to be delivered.

How to operate the SX-434 is quite the same for each version. However, each rear panel differs according to LINE VOLTAGE and FUSE designed for each version.

Fig. A shows the LINE VOLTAGE of a 220V only model.

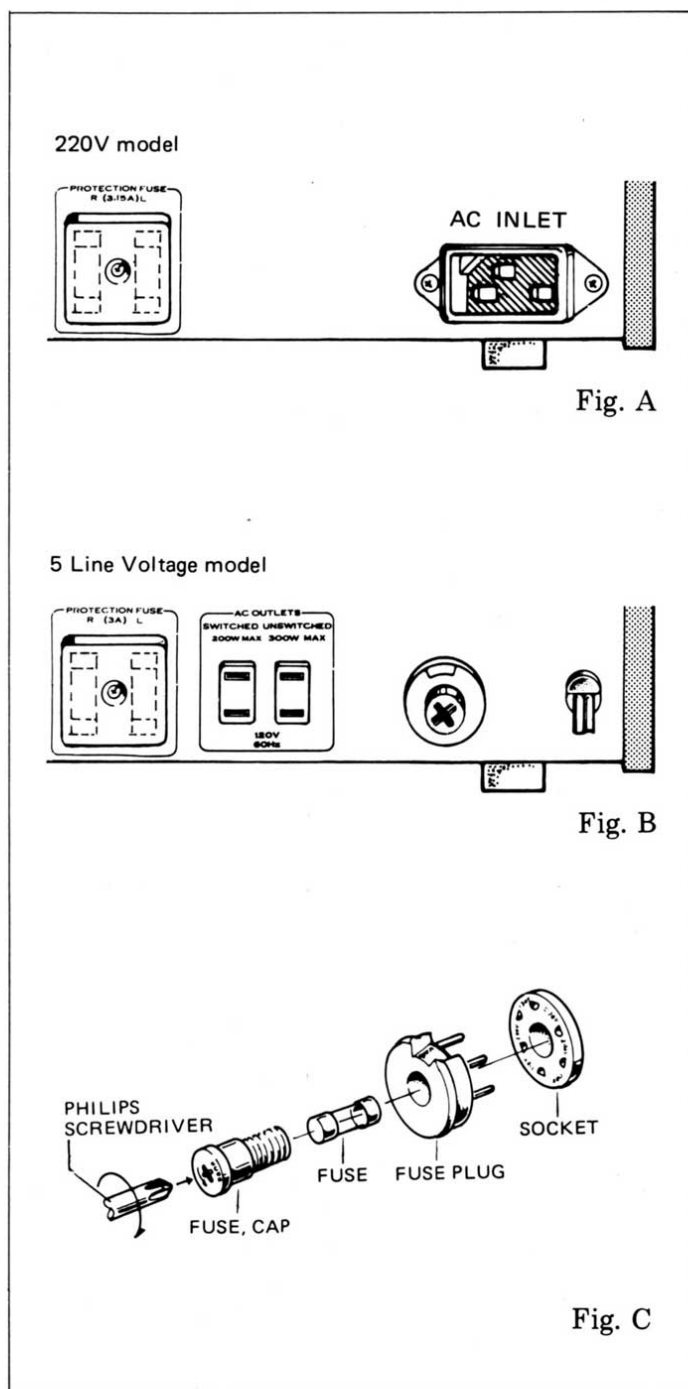
Fig. B shows the LINE VOLTAGE and FUSE of a 5 line voltage (110V, 120V, 130V, 220V, 240V) whose line voltage and fuse can be changed and set as follows:

### CHANGING LINE VOLTAGE SETTING AND FUSE

To remove the fuse, turn the fuse cap located on the line voltage selector in the direction indicated by the arrow. Then remove the fuse plug from the unit. Put the fuse plug back so that the proper line voltage marking can be seen through the cut in the edge of the plug. Whenever the position of the selector is changed, check the rating of the fuse. A 1.5A fuse is to be used for either 220V or 240V operation and a 3A fuse rating for 110V, 120V or 130V operation. If the rating of the fuse is correct, replace cap.

### FUSE REPLACEMENT

When the fuse blows, remove the fuse cap and replace the fuse with a new one. Fig. C.



## STEREO SYSTEM SETUP

Your SX-434 is ideally suited to form the heart of a stereophonic reproduction system of the very highest quality. Use it, as shown in Fig. 1, with the speaker systems and other components of your choice, including turntable, tape deck (either open-reel or cassette type) and microphone (for use in a public address system), etc.

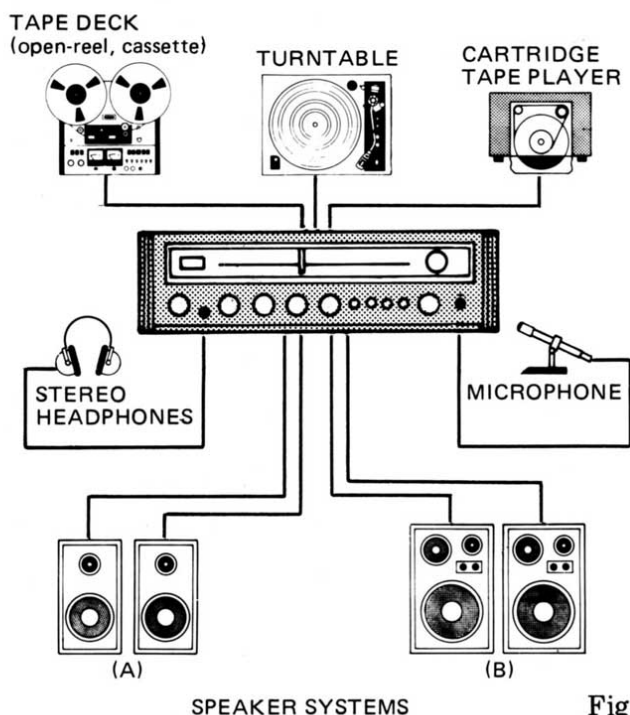


Fig. 1

## A WORD ABOUT ROOM ACOUSTICS

The sound that you hear is greatly influenced by the size and shape of the room, by the location of the loudspeakers, by the materials used for the walls, ceiling and floor, by the amount and distribution of furniture, carpets, draperies. Generally, it is advisable to place the speakers with their backs against a wall as this will improve bass response.

Bare rooms with low ceilings, hard floors and hard, reflective walls, especially a hard wall facing the speakers, can cause very "live," brilliant sound with lack of clear instrument localization and definition. In such a case, it usually helps to put a carpet and heavy, soft curtains in the room. Conversely, rooms with heavy carpeting and a great deal of upholstered furniture make the sound "dead" — often, re-arranging the furniture helps in this case.

## SPEAKER SYSTEM CONNECTION

Two sets of speaker output terminals (A and B) of the Receiver can accept two pairs of speakers, connect them to the A speaker terminals as follows. See Fig. 2. Speaker wire is often supplied with the speaker.

- Connect the right channel speaker (the right-hand speaker when viewed from the front) to the speaker terminals marked "R" on the Receiver.
  - Connect the left channel speaker (the left-hand speaker when viewed from the front) to the speaker terminals marked "L" on the Receiver.
- Use common two-pole lead wire, preferable with the two different-colored leads for easy identification.

Be sure to connect the plus (+) terminal (red terminal) on the Receiver to the (+) terminal on the speaker, and the minus (−) terminal (black terminal) on the Receiver to the (−) terminal on the speaker. A second pair of speakers can be connected to the B speaker terminals in the same way.

### NOTE:

When two pairs (A+B) of speakers are to be used at the same time, each speaker must have an impedance of 8 ohms or more.

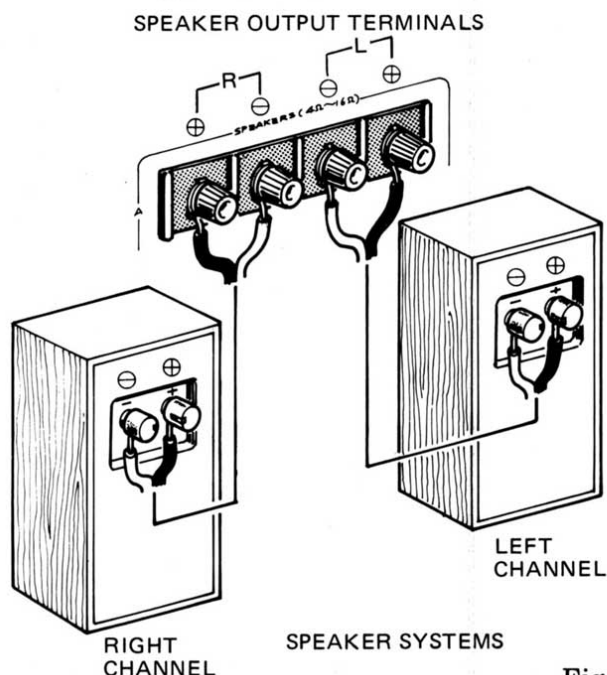
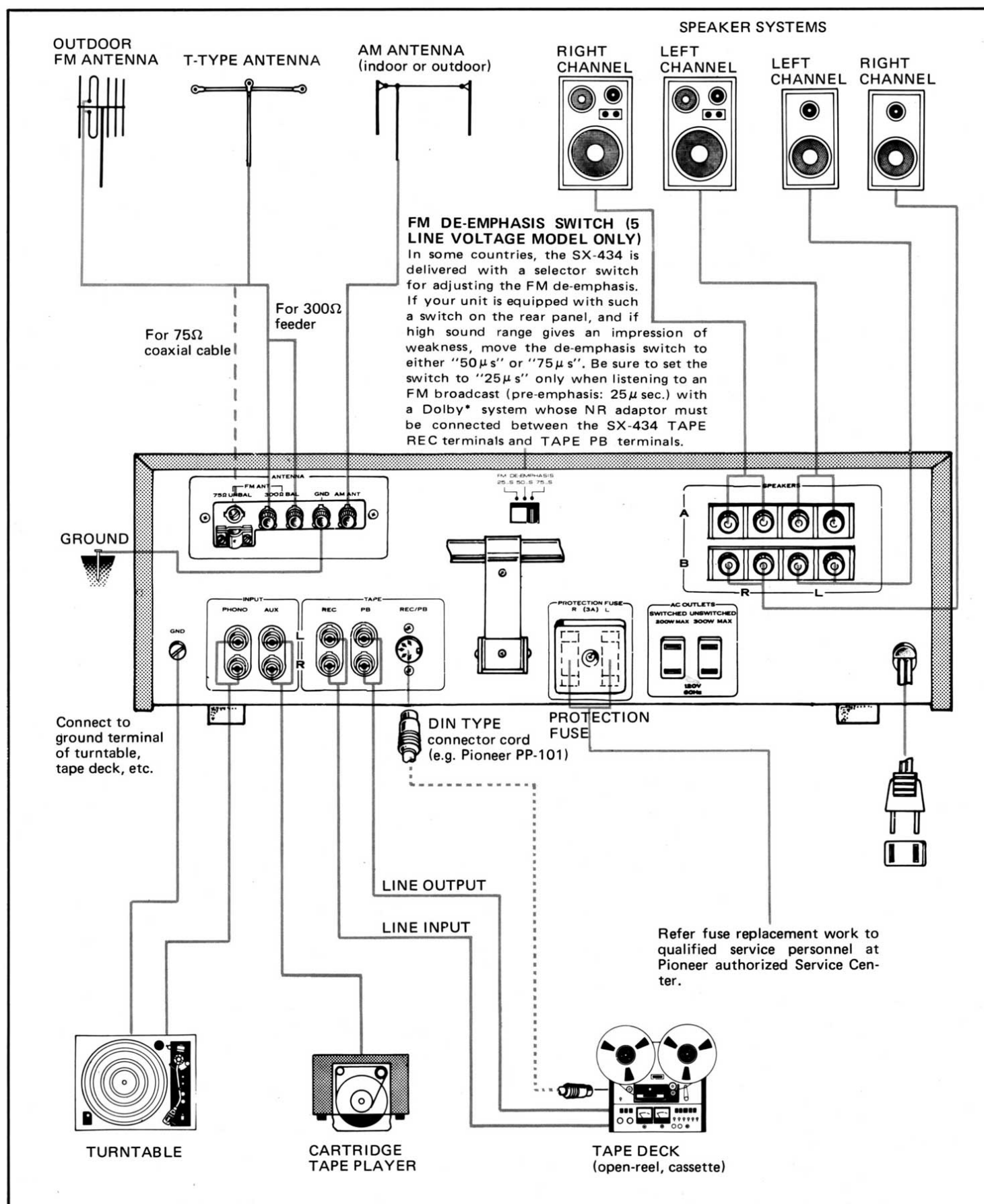


Fig. 2



# CONNECTION DIAGRAM



\*The word "Dolby" is a trademark of Dolby Laboratories Inc.

# ANTENNA AND GROUND CONNECTIONS

## FM ANTENNA CONNECTIONS

For the best results you should use an outdoor-type FM antenna. The simple T-type antenna supplied with the Receiver may be satisfactorily used in areas of high signal strength (for instance, those very near to the FM station, or in an all-wooden construction house).

### Placement and Connection of FM Antenna

- Connect the feeder wire from the antenna to the FM ANTENNA terminals on the Receiver (Figs. 3, 4)
- Please place the antenna for the best reception while listening to an FM station as described in "FM Reception" on page 9.

#### NOTE:

FM antennas are available in any type. Select the best type after securing the advice of your audio dealer.

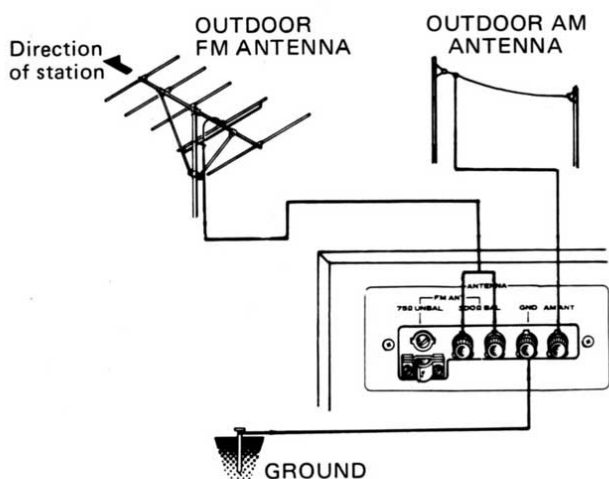


Fig. 3

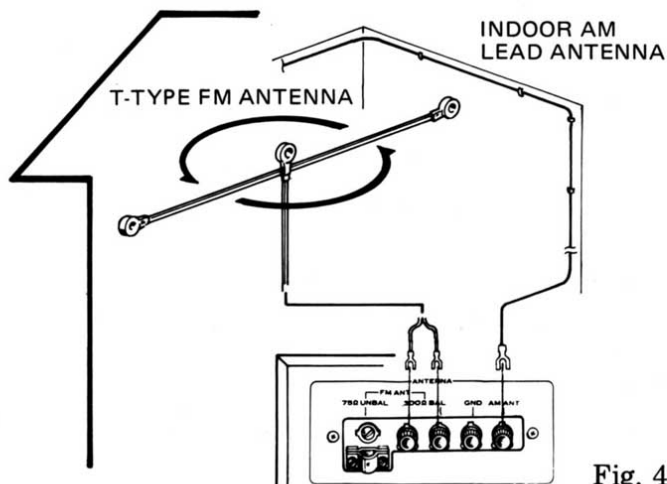


Fig. 4

## Making Connections with Coaxial Cable

In certain locations—in cities with high traffic density, in industrial areas, and near high voltage power lines—objectionable interference may be present even with the use of a special-purpose FM outdoor antenna. Please consult with your local audio dealer on the advisability of connecting the antenna and Receiver with 75Ω coaxial cable in place of the feeder you are using. When using coaxial cable, connections should be made as shown in Fig. 5.

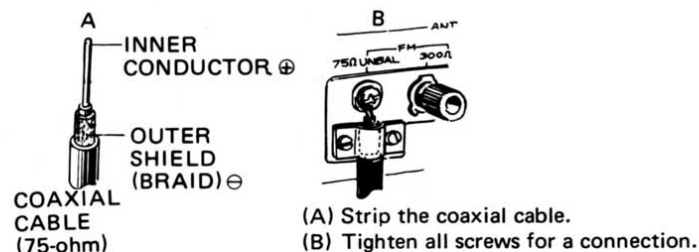


Fig. 5

## AM ANTENNA CONNECTION

Under normal conditions it will be sufficient to adjust the ferrite bar antenna mounted on the rear panel of the Receiver for optimum broadcast signal reception as shown in Fig. 6 and in accordance with the instructions given on page 9 "AM Reception."

Should reception still be noisy or weak with the bar antenna, an indoor lead antenna or outdoor AM antenna may be fitted.

### Placement and Connection of AM Antenna

- Connect the antenna lead wire to the Receiver AM ANTENNA terminal.
- Use vinyl-sheathed wire as shown in Fig. 4 for the indoor lead antenna.
- For an outdoor AM antenna, use trees, etc., to suspend the vinyl-sheathed wire as shown in Fig. 3.

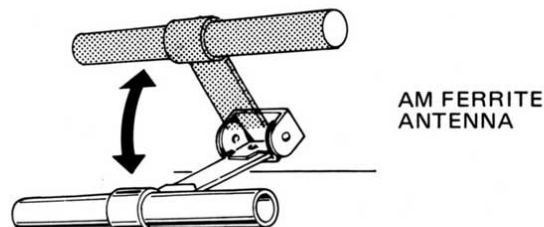


Fig. 6

## GROUND CONNECTION

It is advisable, both on the grounds of safety and the elimination of interference, to install an ground wire as shown in Fig. 3 wherever possible.

## EQUIPMENT COMPONENT CONNECTIONS

### TURNTABLE CONNECTION

The stereo turntable with a moving magnetic (MM) phono cartridge can be connected to the PHONO input jacks (see Fig. 7).

The upper jack is for the left channel output cable from the turntable, the lower jack for the right channel cable. The ground wire or plug from the turntable should be connected to the GND terminal of the Receiver.

#### NOTE:

A moving coil (MC) phono cartridge of low output voltage can be used only in combination with a separate booster transformer or head amplifier.

SX-434 PHONO and AUX input jacks

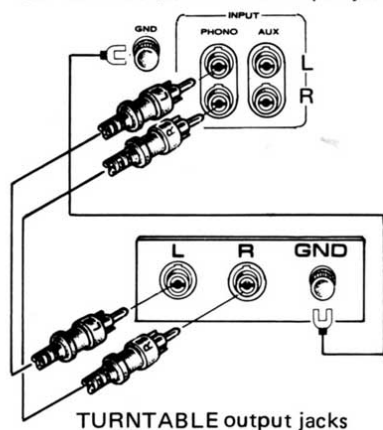


Fig. 7

### USE OF THE AUX INPUT JACKS

These jacks are auxiliary input jacks. They may be used for connecting stereo output leads from a cartridge tape player and sound track from a TV set.

The upper jack is for the L (left) channel, the lower jack for the R (right) channel.

### TAPE DECK CONNECTIONS

The Receiver can be connected to a stereo tape deck (open-reel or cassette) for recording and playback. Use connection cords usually supplied with the tape deck. For connections, use the following procedures (see Fig. 8).

#### Recording

Connect the LINE INPUT jacks of tape deck to the TAPE REC jacks of the Receiver.

Be sure that all connections are correct.

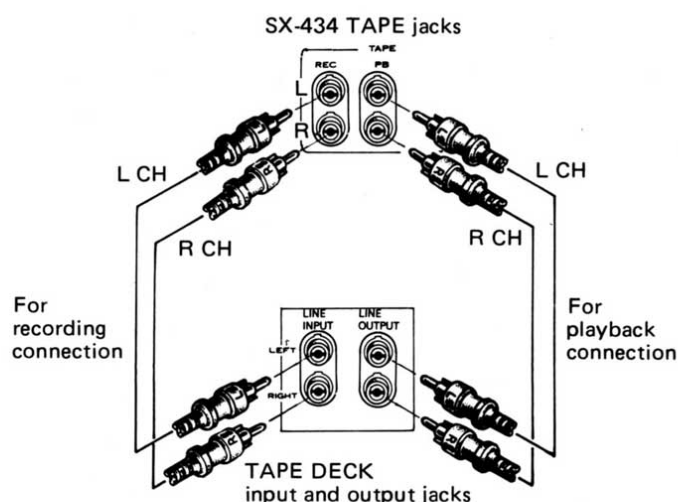


Fig. 8

#### Playback

Connect the LINE OUTPUT (or TAPE MONITOR) jacks of tape deck to TAPE PB jacks of the Receiver.

Do the same confirmation as for the Recording.

#### Connection via REC/PB Connector

Instead of the recording and playback connections just described, the tape deck can be connected to the TAPE REC/PB connector (DIN-type) of the Receiver if an identical connector is provided in the tape deck, too. The required DIN-cable is available at all hi-fi and radio stores. The single cable completes all playback and recording connectings at the same time. Use a DIN-cable for tape deck-to-amplifier connection (see Fig. 9).

Note that the REC/PB connector corresponds to TAPE PB and TAPE REC jacks — the signal must be controlled with the TAPE MONITOR button on the Receiver.

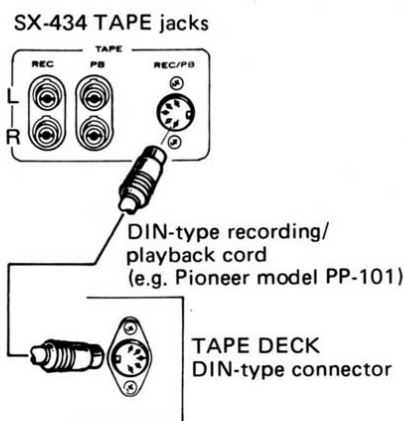
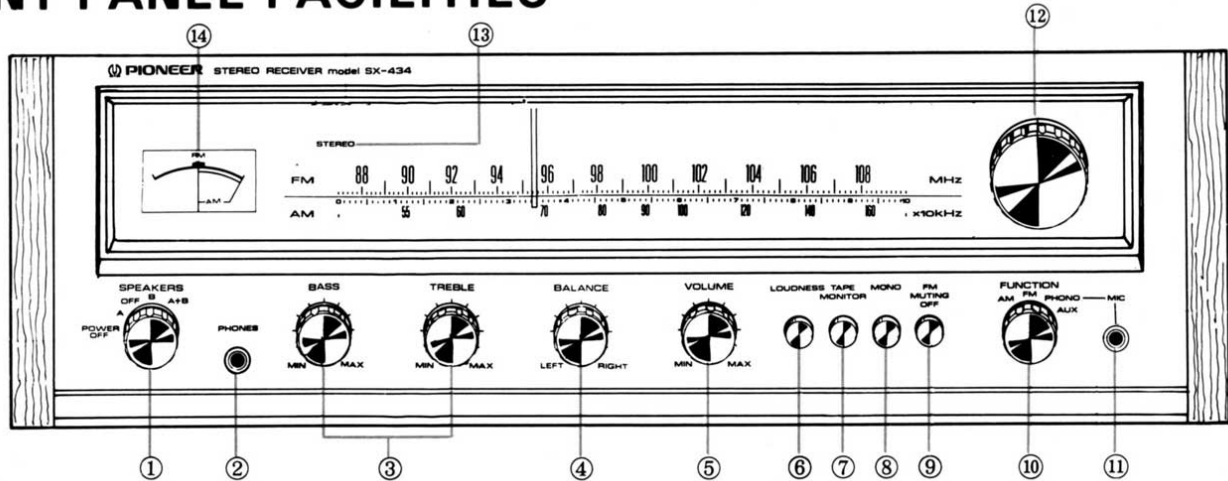


Fig. 9

# FRONT PANEL FACILITIES



## ① SPEAKERS SWITCH

A combination of the power ON/OFF switch and the speaker system selector switch.

POWER OFF: Receiver off.

A: Speaker systems connected to speaker outputs A operate.

OFF: All speakers off. Use this position when listening through headphones.

B: Speaker systems connected to speaker outputs B operate.

A+B: Both speaker systems A and B operate.

## ② HEADPHONE JACK

Accepts stereo headphones.

A wide variety of quality headphones are available from Pioneer.

## ③ BASS & TREBLE CONTROLS

Control bass and treble. Turning each control clockwise (counterclockwise) from the center position will boost (diminish) the tone.

## ④ BALANCE CONTROL

Balances the relative sound volume of the left and right channel speakers. Clockwise rotation will reduce the volume from the left speaker, counterclockwise rotation will decrease the volume from the right speaker.

## ⑤ VOLUME CONTROL

Governs both the volume of sound outputs from the speaker systems and from the headphones.

## ⑥ LOUDNESS BUTTON

Depress when listening at low volume levels for proper sound balance relative to human ear sensitivity.

## ⑦ TAPE MONITOR BUTTON

Depress this button to ON for monitoring a recording now in progress and for playback of recorded tapes, with the tape deck connected to the TAPE PB jacks and TAPE REC jacks or TAPE REC/PB connector.

## ⑧ MODE BUTTON

Selects stereo or mono sound.

STEREO: Leave it undepressed.

MONO: Depress it for monophonic sound into which the left and right channel signals blend.

## ⑨ FM MUTING BUTTON

Keep the button undepressed (ON) to make the FM MUTING circuit cancel out noise on unused bands (inter-station noise), but it also rejects very weak, faint FM stations. To receive such a station, depress the button to OFF.

## ⑩ FUNCTION SWITCH

This selects the program source:

AM: AM reception.

FM: FM reception with automatic switching for either of stereo or mono programs.

PHONO/MIC: For playing records or using a microphone.

AUX: For playing component connected to the AUX terminals.

## ⑪ MIC INPUT JACK

Accepts the plug of the microphone.

When a microphone is connected to the MIC jack, the turntable connected to PHONO input jacks cannot be used.

## ⑫ TUNING KNOB

Rotate to tune in AM or FM reception.

## ⑬ FM STEREO INDICATOR

This indicator will light up when the broadcast is in stereo.

## ⑭ AM/FM TUNING METER

When tuning FM stations, meter should indicate in the center "FM" area. When tuning AM stations, tune for maximum meter deflection toward the right of the scale.

# HOW TO OPERATE THE RECEIVER

## PREPARING TO SWITCH POWER ON

Before switching on the power, please set the various controls as follows:

- Set the VOLUME control to MIN.
- Set the BALANCE control to the midway position.
- Set the TAPE MONITOR button to OFF (released/undepressed).
- Set the TREBLE and BASS controls to the midway positions.
- Set the MODE button to STEREO (released/undepressed).
- Set the FM MUTING button to ON (released/undepressed).

It is important to set these controls as indicated to avoid any inadvertent overload on the Receiver or speakers, etc., when power is switched ON.

## FM RECEPTION

1. Set the FUNCTION switch to FM.
2. Leave (or reset) the FM MUTING button to (ON) undepressed.

Note, however, that in areas of weak signal strength the signal may be suppressed. In this case only, the FM MUTING button should be depressed to the OFF position.

3. Turn the TUNING knob to select your station. Best reception is obtained when the AM/FM TUNING meter needle is exactly in the center (see Fig. 10).

If the broadcast is in stereo, the STEREO indicator lamp will come on: it will not illuminate for monophonic broadcasts.

4. Adjust the loudness of the sound with the VOLUME control, and the BASS and TREBLE controls to adjust for the tone quality of your preference.

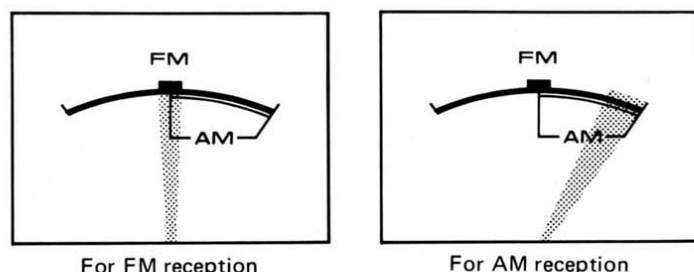


Fig. 10

## AM RECEPTION

1. Set the FUNCTION switch to AM.
2. Turn the TUNING knob to select your station. Best reception is obtained when the AM/FM TUNING meter needle deflects to the extreme right (see Fig. 10).
3. Adjust the VOLUME, BASS, and TREBLE controls for the listening level and tone quality of your preference.

### NOTE:

*If, when listening to either FM or AM broadcasts, the sensitivity seems poor, and interference is heavy, so that listening pleasure is seriously affected, refer to the section "ANTENNA AND GROUND CONNECTIONS," on page 6 and make any changes necessary.*

## RECORD PLAYING

1. Set the FUNCTION switch to PHONO/MIC.
2. Operate the turntable to play the record.
3. Adjust the VOLUME, BASS and TREBLE controls for the listening level and tone quality of your preference.

## USING THE AUX JACKS

When playing equipment to which the AUX jacks are connected, operate as follows:

1. Set the FUNCTION switch to AUX.
2. Operate the audio component.
3. Adjust the VOLUME, BASS and TREBLE controls for the listening level and tone quality of your preference.

## USING THE MICROPHONE

1. Connect the microphone to the MIC jack.
2. Set the FUNCTION switch to PHONO/MIC.
3. Adjust the sound level by turning the VOLUME control to the right little by little. The midway setting of the BASS and TREBLE controls will usually be best.

### NOTES:

1. You should use high impedance (above 20k $\Omega$ ) microphones of the dynamic type, with standard 6mm diameter phone plugs. Pioneer puts on the market a wide variety of high performance microphones for your selection.
2. It is readily possible for microphone, under certain conditions of use, to give rise to "howling" feedback noise. Be careful not to raise the volume too high when the microphone is close to the speaker systems or in a room with a great deal of resonance. It is most effective in using the TREBLE and BASS controls at their midway positions.



## USING TAPE DECKS

### Playback

1. As shown in Fig. 11, set the TAPE MONITOR button to ON (depressed).
2. Operate the tape deck controls to give playback.
3. Adjust the VOLUME, BASS, and TREBLE controls for the listening level and tone quality of your preference.

#### NOTE:

Turning the TAPE MONITOR button ON enables tape playback whatever the setting of the FUNCTION switch.

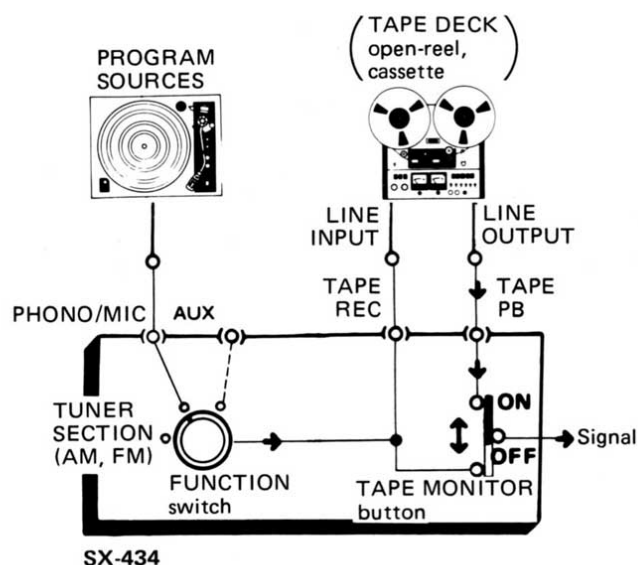


Fig. 11

### Recording

As shown in Fig. 11, the Receiver TAPE REC jacks carry a certain, fixed level output from the source selected by the FUNCTION switch, which, once the tape deck is connected to the appropriate jacks, enables the selected source to be recorded. The operation is as follows:

1. Set the FUNCTION switch for the source to be recorded.
2. Play the selected program source.
3. Adjust the recording level with the controls on the tape deck, and commence recording.

The Receiver VOLUME, BASS, and TREBLE controls are completely inoperative—that is, they have no effect on the recorded sound.

### Monitoring of a recording in progress

If the tape deck is a three-head type or equipped with monitor circuits, a recording in progress can be monitored by setting the TAPE MONITOR button on the Receiver to ON (Fig. 11).

## TAPE DUPLICATING

With two tape decks, you can duplicate tape-to-tape, or edit recordings while re-recording. For example, you can first tape a complete FM stereo program, with announcements and commercials, and later re-record on another tape while cutting out unwanted portions.

For duplicating proceed as follows:

1. Connect two tape decks as shown in Fig. 12.
2. Set the FUNCTION switch to AUX, and reproduce a recorded program by operating the tape deck plugged into the AUX inputs.
3. Record the program in the way you want by operating the tape deck plugged into TAPE REC (PB) jacks. Operating the TAPE MONITOR button allows you to monitor a recording now in progress.

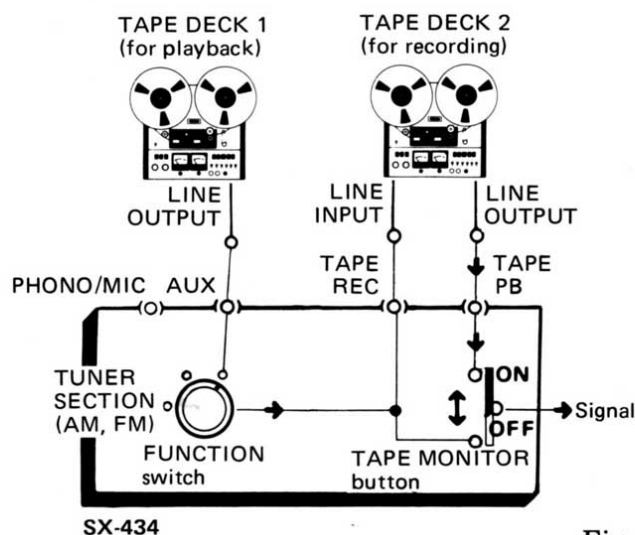


Fig. 12



# SPECIFICATIONS

## Semiconductors

FETs	1
ICs	3
Transistors	27
Diodes	13

## Amplifier Section

**15 watts\* per channel, min. RMS at 8 or 4 ohms from 40 Hertz to 20,000 Hertz, with no more than 0.8% total harmonic distortion.**

### Continuous Power Output at 1,000 Hertz

(Both channels driven)	16 watts per channel (8 ohms)
	18 watts per channel (4 ohms)

Harmonic Distortion	No more than 0.8%
(40 Hertz to 20,000 Hertz) (Continuous Power Output, 8 ohms)	No more than 0.1%
(1 watt per channel Power Output, 8 ohms)	

Intermodulation Distortion	No more than 0.8%
(Continuous Power Output, 8 ohms)	No more than 0.1%
(1 watt per channel Power Output, 8 ohms)	

Output, Speaker	A, B, A+B
Headphone	Low impedance

Damping Factor (1,000 Hertz, 8 ohms)	More than 25
Residual Hum & Noise	No more than 0.5mV
(8 ohms, Pre Power-amplifier)	

### Input Sensitivity/Impedance

PHONO	2.5mV/50 kohms
PHONO Overload Level (rms/p-p)	100mV/280mV
MIC	10mV/90 kohms
AUX	150mV/80 kohms
TAPE PB	150mV/80 kohms
TAPE PB (DIN connector)	150mV/80 kohms

### Output Level/Impedance

TAPE REC	150mV
TAPE REC (DIN connector)	30mV/80 kohms

### Frequency Response

PHONO (RIAA equalization)	30 Hertz ~ 15,000 Hertz $\pm 1$ dB
AUX, TAPE PB	30 Hertz ~ 25,000 Hertz $\pm 1$ dB

### Tone Control

BASS	+9dB, -8dB (100 Hertz)
TREBLE	+5dB, -7dB (10,000 Hertz)

### Loudness Contour (Volume control set at

-40dB position)	+10dB (100 Hertz), +5dB (10,000 Hertz)
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### Hum and Noise (IHF, short-circuited, A Network)

PHONO	More than 70dB
MIC	More than 65dB
AUX, TAPE PB	More than 90dB

## FM Section

Usable Sensitivity (IHF)	1.9 $\mu$ V
Capture Ratio (IHF)	1.0dB
Selectivity (IHF)	60dB
Signal-to-Noise Ratio	70dB
Image Rejection (98MHz)	60dB
IF Rejection (98MHz)	90dB
Spurious Rejection	75dB
AM Suppression	50dB

Harmonic Distortion: MONO	Less than 0.2%
STEREO	Less than 0.4%

Frequency Response	20Hz ~ 15kHz $\pm 2.5$ dB
	50Hz ~ 10kHz $\pm 0.5$ dB

Stereo Separation: 1kHz	More than 40dB
50Hz ~ 10kHz	More than 30dB

Sub Carrier Suppression	40dB
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Antenna Input	300 $\Omega$ Balanced
	75 $\Omega$ Unbalanced

Muting	ON-OFF
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## AM Section

Sensitivity (IHF, Ferrite antenna)	300 $\mu$ V/m
(IHF, Ext. antenna)	15 $\mu$ V

Selectivity	35dB
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Signal-to-Noise Ratio	50dB
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Image Rejection	40dB
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IF Rejection	50dB
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## Miscellaneous

Power Requirements	AC 220V 50/60Hz
Power Consumption	110W

150W (Manufactured for England)

Dimensions	430 (W) x 140 (H) x 347 (D) mm
	16-15/16 x 5-1/2 x 13-11/16 in.

Weight: Without Package	8.1kg (17 lb 13 oz)
With Package	9.1kg (20 lb 1 oz)

## Furnished Parts

FM T-type Antenna	1
Operating Instructions	1
Fuse 3A	1
Fuse 1.5A	1

(5 line voltage model only)

\*Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.

### NOTE:

Specifications and the design subject to possible modification without notice due to improvements.

# CONDITIONS FREQUENTLY MISTAKEN FOR MALFUNCTION

	SYMPTOM	SUSPECTED SOURCE OF NOISE	DIAGNOSIS AND REMEDY
WHEN LISTENING TO BROADCASTS	Continuous or intermittent noise like jjjjjj or zzzzzz.	<ul style="list-style-type: none"> <li>• Static (lightning)</li> <li>• Fluorescent lamp, motor, or thermostat may be in use in house or in the vicinity of the house.</li> </ul>	In many cases, it is very difficult to remove the source of noise. In order to make the radio input larger than the noise level, set up a good outdoor antenna and make a complete grounding.
	When a station is tuned in, hum is mixed in the program.	<ul style="list-style-type: none"> <li>• Poor fluorescent lamp, motor, or electric heater may be in use in house or near the house.</li> </ul>	Reversing the line plug may occasionally alleviate this noise problem. Usually it is very difficult to eliminate the noise.
	Hissing sound noise in AM (medium wave) reception.	<ul style="list-style-type: none"> <li>• The frequency of an adjacent station is interfering with that of the station being tuned in (10kHz beat interference).</li> <li>• TV set is on in the same house with the receiver.</li> </ul>	Impossible to remove such interference. If the case of such noise is in the TV set, increase the distance between the TV set and receiver.
	Static noise (in particular, when automobiles run close to the house).	<ul style="list-style-type: none"> <li>• White noise generated from automobile engines.</li> <li>• High frequency sewing machine or welding machine being used near your house.</li> </ul>	In an area surrounded by hills or high buildings, the FM input signals are very weak. Thus the noise limiter in the circuit loses its function. Set up an FM outdoor antenna having many director elements.
	Reception of FM stereo program contains more noise than FM mono program.	<ul style="list-style-type: none"> <li>• Note that the service area covered by an FM stereo broadcast is about 50% of that of a regular mono broadcast.</li> </ul>	Increasing FM input signal may alleviate this problem. Use an exclusive FM outdoor antenna instead of the indoor T-type antenna.
WHEN PLAYING RECORDS	Hum or buzz. When switched to radio reception, the noise disappears.	<ul style="list-style-type: none"> <li>• Poor connection of shielded wire. (a)</li> <li>• Jack connection is loose. (b)</li> <li>• Line cord of fluorescent lamp is near the shielded wire. (c)</li> <li>• Poor grounding. (d)</li> <li>• Ham transmitting station or TV transmitting station is near your house. (e)</li> </ul>	Correct the conditions stated in (a), (b), (c) or (d). In case of (e), report it to an official activity.
	Output tone quality is poor and mixed with noise. Treble is not clear.	<ul style="list-style-type: none"> <li>• Stylus wears out. (a)</li> <li>• Record wears out. (b)</li> <li>• Dust adheres to stylus. (c)</li> <li>• Stylus is improperly mounted. (d)</li> <li>• Stylus pressure is not proper. (e)</li> <li>• The TREBLE level is too high.</li> </ul>	<p>Check (a) through (e) and correct the condition.</p> <p>Lower the TREBLE level.</p>

## WATCH FOR THE FOLLOWING CONDITIONS; THESE ARE ALSO APT TO BE MISTAKEN FOR MALFUNCTIONS.

	SYMPTOM	SUSPECTED SOURCE OF NOISE	DIAGNOSIS AND REMEDY
	Power is not turned on although the power switch is set to ON.	<ul style="list-style-type: none"> <li>• Fuse blows. (a)</li> <li>• Line plug is loose. (b)</li> </ul>	Check (a) and (b) and correct the condition.
	Power ON but speakers produce no sound.	<ul style="list-style-type: none"> <li>• Blown-out PROTECTION fuse.</li> </ul>	Refer fuse replacement work to qualified service personnel at Pioneer authorized Service Center.
	In playing a record, increasing the volume causes howling.	<ul style="list-style-type: none"> <li>• Distance between the turntable and the speakers is too short.</li> <li>• The place on which the turntable or speakers are set is unstable.</li> </ul>	<p>Change the distance or rearrange the installation increase of the unit and speakers. (Installing the turntable on a firm, solid stand may alleviate this problem.)</p> <p>Do not enhance the BASS sound level excessively.</p>

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